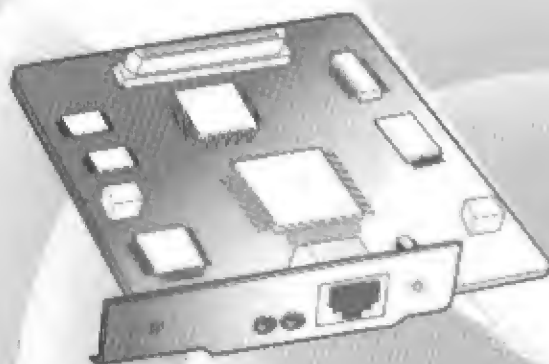


Panasonic

Network Card for Ethernet *Quick Installation Guide*

Model No. **KX-PNB2**



This guide is intended only to cover the general steps in connecting your printer to a network.
Please read this guide first.

For further details on a particular subject, please read the KX-PNB2 User's Guide on the printer's CD-ROM.

Please carefully read this guide and keep this documentation in a safe place for future reference.

Thank you for purchasing the Panasonic Network Card for Ethernet, KX-PNB2.

This Network Card for Ethernet (hereafter Network Card) KX-PNB2 is designed for using with the Panasonic Laser Printer KX-P7500 Series.

If you purchased the Network Card as an option, the serial number is located on the label on the Network Card. For your convenience, record this number below and keep this book along with your proof of purchase, in the event of a theft or for future reference.

MODEL NO. **KX-PNB2** _____ NAME OF RESELLER _____
SERIAL NO. _____ DATE OF PURCHASE _____

You can set up the Network Card by using printer's operator panel display or Network Setup Tool. And also you can set it up by using a web browser such as Netscape Navigator or Microsoft Internet Explorer since the Network Card supports the HTTP server.

For instructions on how to set up the Network Card using Network Setup Tool or the web browser, refer to Appendix on page 31.

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Contents

Before You Start

Features - - - - -	4
Instructions on the CD-ROM - - - - -	4
Unpacking - - - - -	5

Installation

Installing the Network Card - - - - -	5
---------------------------------------	---

Setup

Selecting the Network Print Method - - - - -	11
Printing Directly from a Computer - - - - -	13
Printing through the Shared Computer (Server) - - - - -	25

Appendix

By Using the Network Setup Tool - - - - -	31
By Using the Web Browser - - - - -	31

Features

- Supports 100Base-TX and 10Base-T
- Supports the following operating systems
 - Windows® 95^{*1}/Windows 98^{*2}/Windows NT 4.0^{*3}
 - NetWare 3.x/NetWare 4.x/NetWare 5.0
 - Generic Unix System V Release 3.x, Generic Unix System V Release 4.x, SCO Unix 5.x, SUN OS 5 (System V, Solaris 2.x), HP-UX (Rel 9.x & Rel 10.x), SUN OS 4 (BSD, Solaris 1.x), Linux
 - Macintosh 7.5x, 7.6x, 8.x, 9.0
- Supports the following print protocols
 - Windows IP Peer-to-Peer Printing
 - Windows IPX Peer-to-Peer Printing
 - Windows DLC Peer-to-Peer Printing
 - LPR
 - PSERVER
 - NetWare Printing (PSERVER/RPRINTER in NDS and/or Bindery Mode)
- Supports the following network protocols
 - TCP/IP
 - DLC/LLC
 - DHCP
 - RARP
 - HTTP
 - IPX/SPX
 - AppleTalk
 - BOOTP
 - SNMP/MIB

^{*1} Microsoft® Windows® 95 operating system (hereafter Windows 95)

^{*2} Microsoft® Windows® 98 operating system (hereafter Windows 98)

^{*3} Microsoft® Windows NT® Workstation operating system and Microsoft® Windows NT® Server network operating system Version 4.0 (hereafter Windows NT 4.0)

Instructions on the CD-ROM

This Quick Installation Guide describes how to set up the network in Windows 95/Windows 98/Windows NT 4.0.

Please refer to the KX-PNB2 User's Guide on the printer's CD-ROM for detailed information on other network environment setup, troubleshooting, etc.

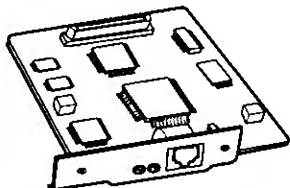
To open the file, perform the following steps after installing the Acrobat Reader program by referring to the printer's Setup Guide.

- (1) Insert the CD-ROM in your CD-ROM drive.
- (2) Double-click the Manual folder and English folder.
- (3) Double-click the pnb2.pdf.

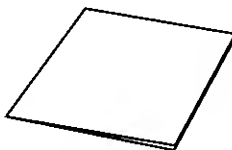
Unpacking

If you purchased the Network Card as an option, make sure that the following items are included. Report damage or shortages to the reseller from where the Network Card was purchased.

☐ Network Card



☐ Quick Installation Guide
(this guide)



IMPORTANT

- Save the original carton and packing materials for future shipping and transporting of the Network Card.

Installing the Network Card

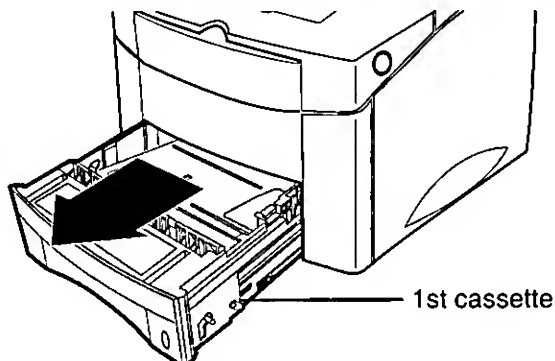
IMPORTANT

- To prevent damage, be sure to turn OFF the printer when installing/uninstalling the Network Card.
- Before installing the Network Card you should discharge any static electricity by touching any exposed metal surface on the printer, **while the printer is still plugged in to a grounded AC outlet.**
- Do not touch any electrical components on the surface of the board to avoid static electricity.
- Use a shielded cable when using a 100 Base-TX/10 Base-T (RJ-45 type) port to ensure emission compliance.
- Do not remove the components which are not indicated.

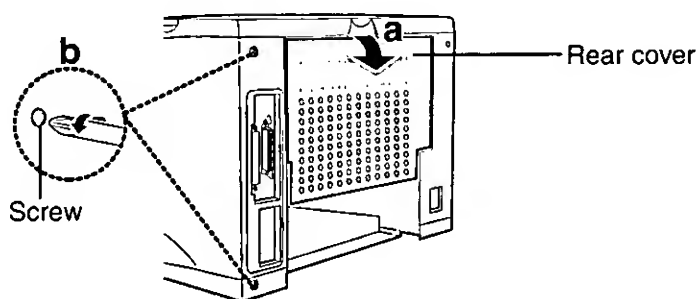
To remove the printer cover

See the "IMPORTANT" on page 5.

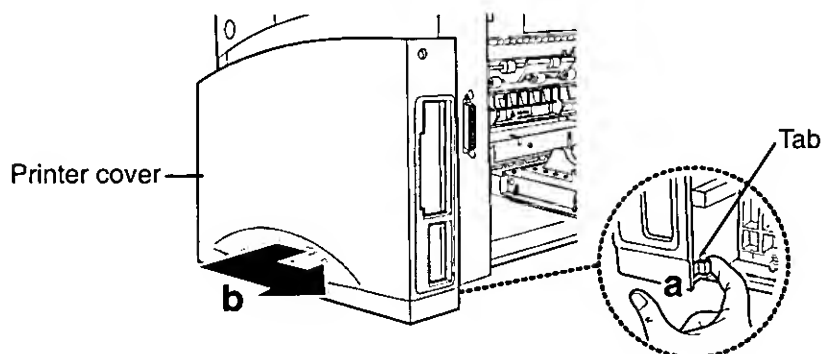
- 1** Turn the printer OFF and pull out the 1st cassette.



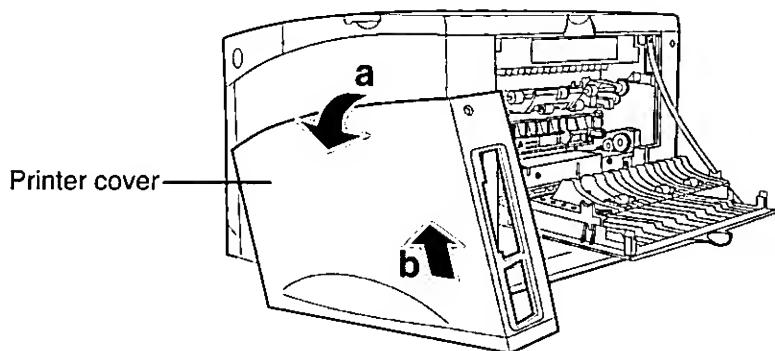
- 2** Unplug the power cord and disconnect any cables connected to the connectors on the back of the printer.
- 3**
 - a) Open the rear cover.
 - b) Remove the two screws from the back of the printer.



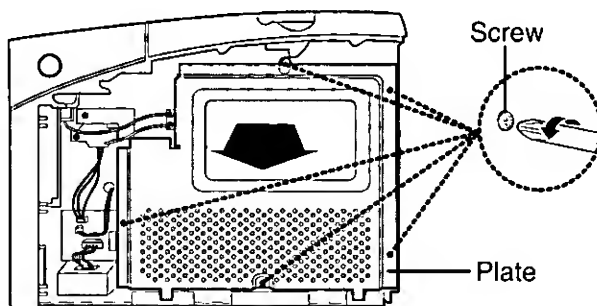
- 4**
 - a) Pull tab to release the printer cover.
 - b) Slide printer cover towards back of the printer.



- 5** a) Rotate the printer cover away from the printer.
b) Lift the printer cover away.

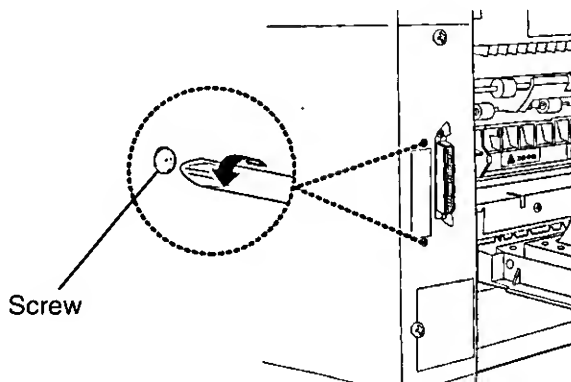


- 6** Remove the five screws from the metal plate covering the control board, then remove the plate.

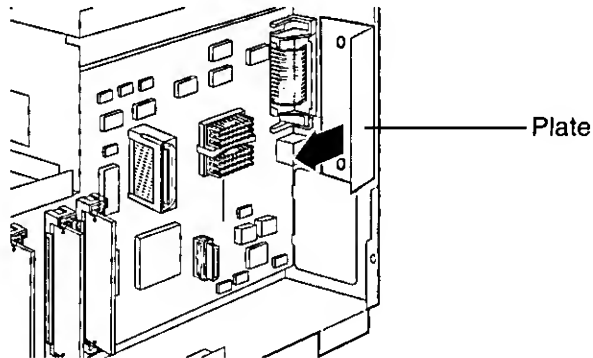


To install the Network Card

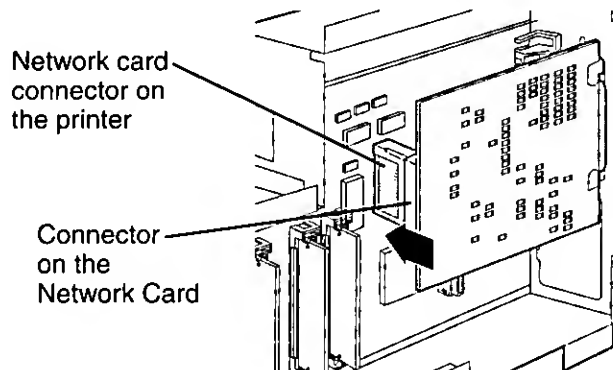
- 1** Remove the two screws from the metal plate covering the opening for the cable connector.



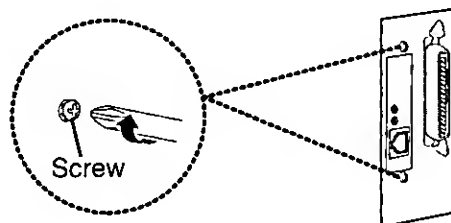
- 2** Remove the plate.



- 3** Insert the connector on the Network Card into the network card connector on the printer control board until it is completely in place.
The two connectors should fit snugly together.

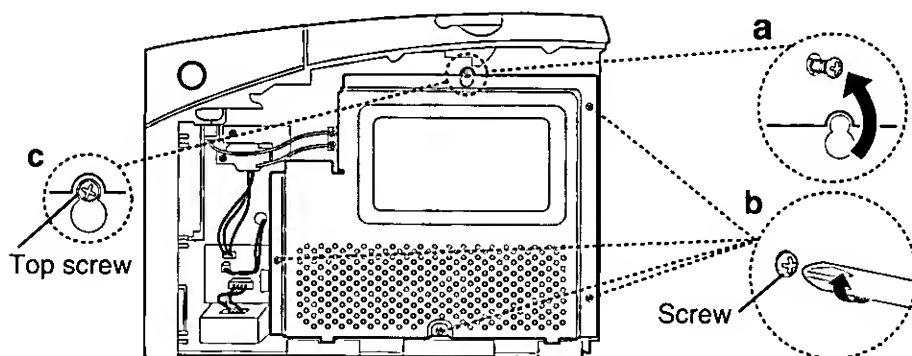


- 4** Gently tighten the two screws to secure the Network Card to the printer control board.

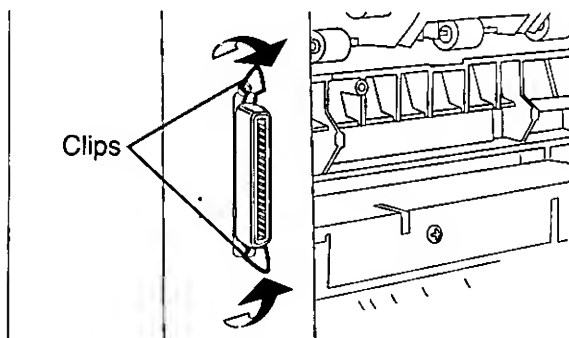


To install the printer cover

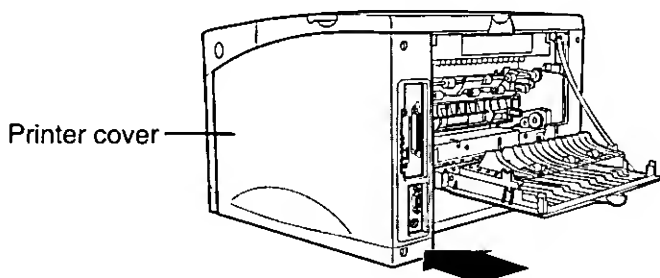
- 5**
- Replace the top screw loosely and hang the plate on it.
 - Tighten the other four screws.
 - Tighten the top screw.



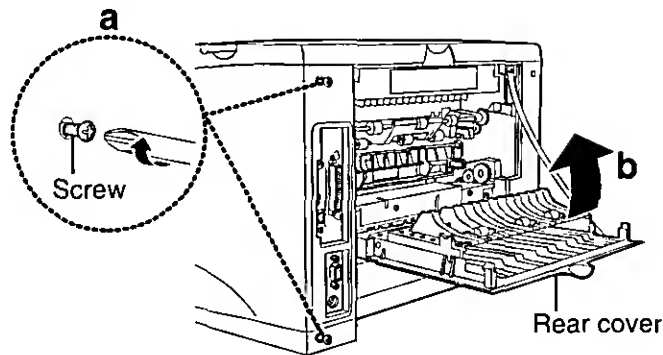
- 6** Stand the clips on the connector to avoid hiding them behind the printer cover.



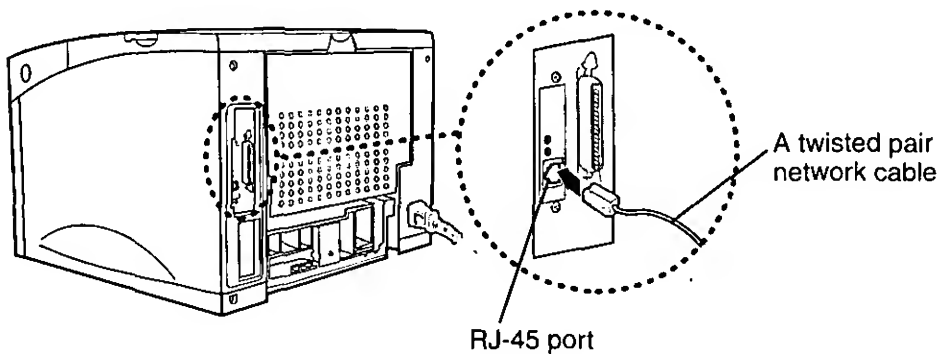
- 7** Set the bottom of the printer cover onto the printer. Make sure the bottom tabs on the printer cover fit into the corresponding slots in the printer.
Rotate the cover up towards the printer.
Slide the cover toward the front of the printer until it clicks into place.



- 8** a) Gently tighten the two screws.
b) Close the rear cover.



- 9** Replace the 1st cassette, then reconnect any interface cables and power cord.
- 10** Connect a twisted-pair network cable (not supplied) to the RJ-45 port.



- 11** Turn ON the printer.

NOTES

- The top green LED comes on when the cable is connected to the port on the Network Card.
- After booting, the bottom green LED should blink irregularly and the top green LED should come on continuously.

Selecting the Network Print Method

There are two ways of network printing. You may need to contact your network administrator to select it.

- Printing directly from a computer
- Printing through the shared computer (server) (page 12)

Printing directly from a computer

A print job of a computer is transferred directly to the Network Card (printer). This method is recommended for a small network and has the advantage of fewer setup steps. However, as the network gets larger, there will be more network traffic causing longer waiting status for the print jobs to be printed.

Firstly, select a network protocol which you are using or want to use.

Secondly, select the printing method.

When using TCP/IP protocol:

- IP Peer-to-Peer Printing
(Windows 95/Windows 98/Windows NT 4.0)

See page 13.

- LPR Printing (Windows NT 4.0)

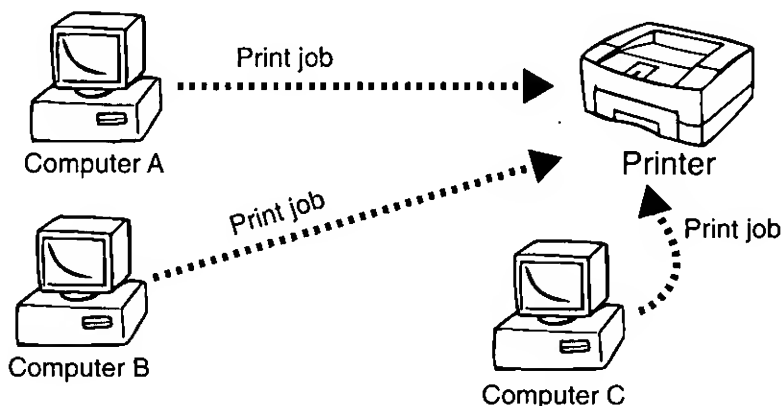
When using IPX/SPX protocol:

- IPX Peer-to-Peer Printing
(Windows 95/Windows 98)

When using DLC protocol:

- DLC Peer-to-Peer Printing (Windows 95/Windows 98)

See the KX-PNB2
User's Guide on the
printer's CD-ROM.



Printing through the shared computer (server)

A print job of a computer (client) is transferred to the Network Card (printer) by the shared computer (server). This method requires a server and is recommended for a larger networks because it lets the server manage the flow of print data and provides faster printing. In addition, the setup will be easy with more computers connected in the future.

Firstly, select a network protocol which you are using or want to use on the shared computer (server).

Secondly, select the printing method.

When using TCP/IP protocol:

- IP Peer-to-Peer Printing
(Server: Windows 95/Windows 98/Windows NT 4.0)

See page 25.

- LPR Printing (Server: Windows NT 4.0)

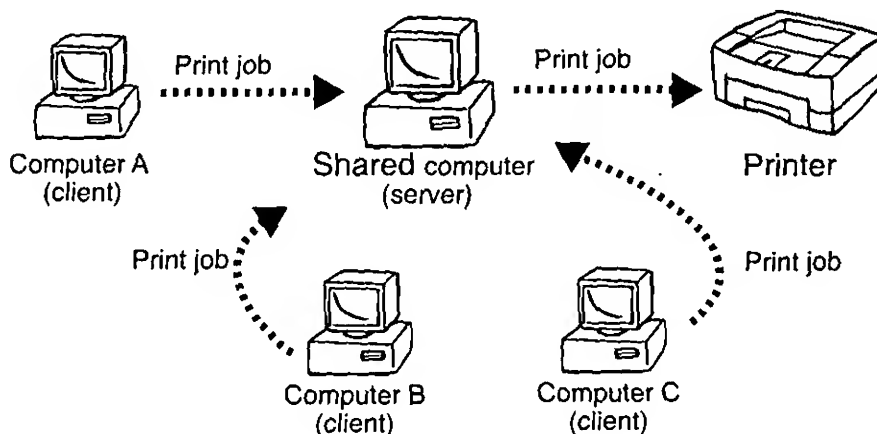
When using IPX/SPX protocol:

- IPX Peer-to-Peer Printing
(Server: Windows 95/Windows 98)
- NetWare Printing (PSERVER/RPRINTER)
(Server: NetWare 3.x, NetWare 4.x, NetWare 5.0)

See the KX-PNB2
User's Guide on the
printer's CD-ROM.

When using DLC protocol:

- DLC Peer-to-Peer Printing
(Server: Windows 95/Windows 98)



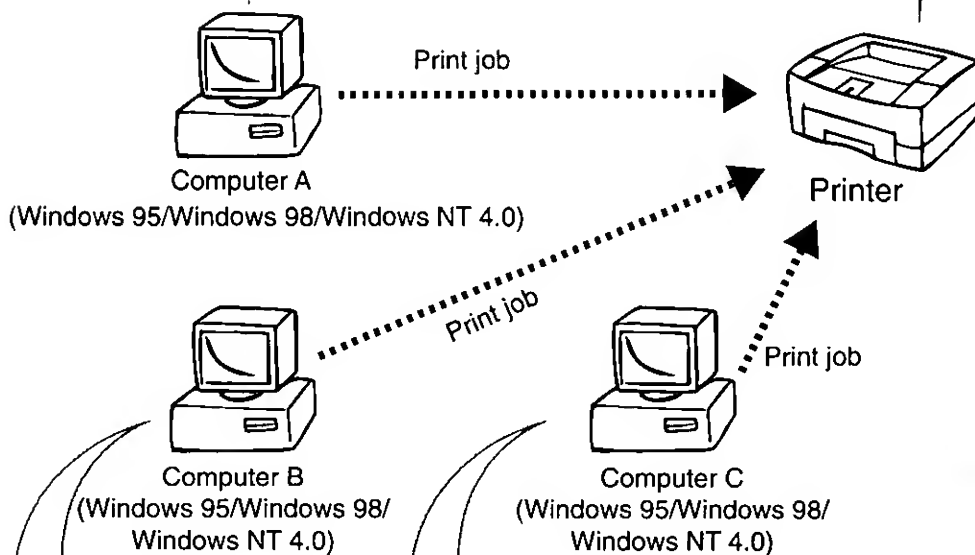
Printing Directly from a Computer

The network printing is configured in the following outline order.

Step 1 Setting up the TCP/IP protocol on the Network Card (page 14)

Step 2 Setting up the TCP/IP protocol on the computer (page 19)

Step 3 Installing and setting up IP Peer-to-Peer printer port on the computer (page 20) (Setting up to transfer the print job)



When setting up direct printing on another computer:

Repeat steps 2 and 3

Step 1: Setting up the TCP/IP protocol on the Network Card

The setting up of IP address, Subnet Mask and Default Gateway are required for the Network Card. Normally there are two ways to set up these addresses. You may need to ask your network administrator about the set up of these addresses.

- By using the DHCP server
- By using the printer's operator panel display

■ By using the DHCP server

This Network Card supports DHCP server. Therefore, it is possible to assign the IP address, etc. automatically from the DHCP server.

NOTES

- In case of the factory default, once the IP address, etc. is assigned, it will be kept in the printer's memory. When the printer is turned on again, the Network Card attempts to obtain the same IP address, etc. But if the DHCP server has already lent this address to other device, a different IP address, etc. will be assigned.
- The IP address assigned from a DHCP server has either limited or infinite lease term. It is recommended to use Infinite lease with this Network Card. The Network Card does not ask for an extension of the lease even if its IP address has a limited lease term. If the infinite IP address is assigned, the lease term is terminated when the printer is turned off.

■ By using the printer's operator panel display

If the administrator manages the IP address, ask your network administrator for the values. If not, decide the value by referring to the example below.

The IP address must be unique on every network computer and device. The Subnet Mask must be the same on all network computers and devices.

Example: Assigning the IP address, Subnet Mask and Default Gateway.

IP Address:	10.x.x.x (For x, you can choose any number from 0 - 255 except 0.0.0.0 and 255.255.255.255)
Subnet Mask:	255.000.000.000
Default Gateway:	Not required.

NOTE

- It is recommended to select "DLC Peer-to -Peer printing" if you use Windows 95/ Windows 98 and you have trouble setting up the IP address values. Its settings are comparatively easy.

- 1 Make sure "READY" appears on the printer's operator panel display.

A rectangular display screen showing the word "READY" in bold, uppercase letters.

- 2 Press **ON LINE/CONTINUE** button.


A rectangular display screen showing the word "OFFLINE" in bold, uppercase letters.

- 3 Press **MENU**  button until "NETWORK MENU" appears.

A rectangular display screen showing the words "NETWORK" and "MENU" in bold, uppercase letters, stacked vertically.

- 4 Press **ITEM**  button until "CFG NET NO *" appears.


A rectangular display screen showing the text "CFG NET" on the top line and "NO *" on the bottom line in bold, uppercase letters.

- 5 Press **VALUE**  button, then **ENTER/CANCEL** button.

A rectangular display screen showing the text "CFG NET" on the top line and "YES *" on the bottom line in bold, uppercase letters.

- 6 Press **ITEM**  button until "CFG TCP NO *" appears.

A rectangular display screen showing the text "CFG TCP" on the top line and "NO *" on the bottom line in bold, uppercase letters.

- 7 Press **VALUE**  button, then **ENTER/CANCEL** button.

A rectangular display screen showing the text "CFG TCP" on the top line and "YES *" on the bottom line in bold, uppercase letters.

- 8 Press **ITEM**  button.

A rectangular display screen showing the text "DHCP" on the top line and "YES *" on the bottom line in bold, uppercase letters.

- 9** If "YES" appears, press **VALUE** $\hat{\circ}$ button, then **ENTER/CANCEL** button.

DHCP
NO *

- 10** Press **ITEM** $\hat{\circ}$ button.

CFG ADRS
NO *

- 11** If "NO" appears, press **VALUE** $\hat{\circ}$ button, then **ENTER/CANCEL** button.

CFG ADRS
YES *

- 12** Press **ITEM** $\hat{\circ}$ button.

IP BYTE1
0 *

- 13** Enter the leading 3 digits of the IP Address. (To decide the value, see the Example on page 14.)

- Pressing the **VALUE** $\hat{\circ}$ button once will increase the value by one. (if you keep pressing the button, the value will continue to increase.)
- Pressing the $\hat{\circ}$ **VALUE** button once will decrease the value by one. The value is set at 255 after 0. (if you keep pressing the button, the value will continue to decrease.)

IP BYTE1
XXX

- 14** Press **ENTER/CANCEL** button.

IP BYTE1
XXX *

- 15** Repeat steps 12 to 14 three times to finish entering value of the IP address.

IP BYTE4
XXX

- 16** Press **ENTER/CANCEL** button.

IP BYTE4
XXX *

- 17** Press **ITEM** \odot button.

SM BYTE1
0 *

- 18** Enter the leading 3 digits of the Subnet Mask. (To decide the value, see the Example on page 14.)

- Pressing the **VALUE** \odot^+ button once will increase the value by one. (if you keep pressing the button, the value will continue to increase.)
- Pressing the **VALUE** \odot^- button once will decrease the value by one. The value is set at 255 after 0. (if you keep pressing the button, the value will continue to decrease.)

SM BYTE1
XXX

- 19** Press **ENTER/CANCEL** button.

SM BYTE1
XXX *

- 20** Repeat steps 17 to 19 three times to finish entering value of the Subnet Mask.

SM BYTE4
XXX



21 Press **ENTER/CANCEL** button.

SM BYTE4
XXX *

22 Press **ITEM**  button.

GW BYTE1
0 *

23 Enter the leading 3 digits of the Default Gateway. (To decide the value, see the Example on page 14.)

- Pressing the **VALUE**  button once will increase the value by one.
(if you keep pressing the button, the value will continue to increase.)
- Pressing the  **VALUE** button once will decrease the value by one.
The value is set at 255 after 0.
(if you keep pressing the button, the value will continue to decrease.)

GW BYTE1
XXX

24 Press **ENTER/CANCEL** button.

GW BYTE1
XXX *

25 Repeat steps 22 to 24 three times to finish entering value of the Default Gateway.

GW BYTE4
XXX

26 Press **ENTER/CANCEL** button.

GW BYTE4
XXX *

27 Press **ON LINE/CONTINUE** button.

Step 2: Setting up the TCP/IP protocol on the computer

To use IP Peer-to-Peer printing directly from the computer, the TCP/IP protocol must be installed and set up on the computer.

If the TCP/IP protocol is used on the computer, proceed to "Step 3: Installing and setting up IP Peer-to-Peer printer port on the computer" on page 20.

If not, install the TCP/IP protocol by referring to the Help menu for Windows 95, Windows 98 or Windows NT 4.0. The IP Address, Subnet Mask and the Default Gateway must be assigned when installing it. Set them using one of the following two ways.

If the TCP/IP protocol setting in the Network Card is set from the DHCP server, proceed to "Setting from the DHCP server" below. If it is done by using printer's operator panel display, proceed to "Setting by direct entering" below.

■ Setting up from the DHCP server:

If the administrator manages the network at the DHCP server, each address is automatically assigned from the DHCP server.

■ Setting up by direct entering:

If the administrator manages the IP address, ask your network administrator to confirm the values, and then enter them. If not, decide the value by referring to the example on page 14, and then enter them.

NOTE

- Make sure step 1 and step 2 (page 14 to 19) are set correctly.
 - (1) On Windows 95/Windows 98/Windows NT 4.0, click **Start**, select **Programs** and click **MS-DOS Prompt**.
 - (2) Type ping, press the space key, then enter the IP address.
[Example] >ping 179.40.0.5
 - (3) Press **Enter**.

If "Reply from XXXXXXXXXX" message is displayed on the screen, the addresses have been set correctly. If not, those are not set correctly, and you should go back to "Installing the Network Card" on page 5.

Step 3: Installing and setting up IP Peer-to-Peer printer port on the computer

■ Installing the printer driver

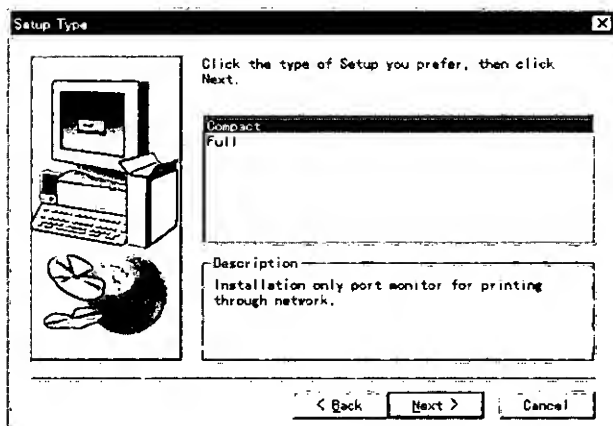
If the printer driver has not been installed, install it by the CD-ROM supplied with the printer. For detailed instructions, see the printer's Operating Instructions on the CD-ROM.

NOTE

- If installing the PostScript printer driver, select "Local printer" when a message to select local printer or network printer appears. And select LPT1 when available port list appears.

■ Installing IP Peer-to-Peer printer port

- 1 Insert the CD-ROM in your CD-ROM drive.
- 2 Click **English** and click **Network Utilities**.
- 3 Select a printer model and click **Select**.
- 4 Click **Next>** three times.
 - If installing the Network Setup Tool as the same time, click **Full**.



- 5 Click **Next>**.
- 6 Quit all applications and click **Finish**.

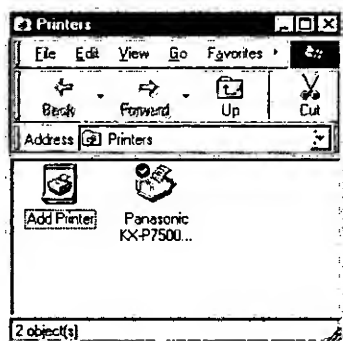
Your computer will be restarted.

■ Setting up IP Peer-to-Peer printer port

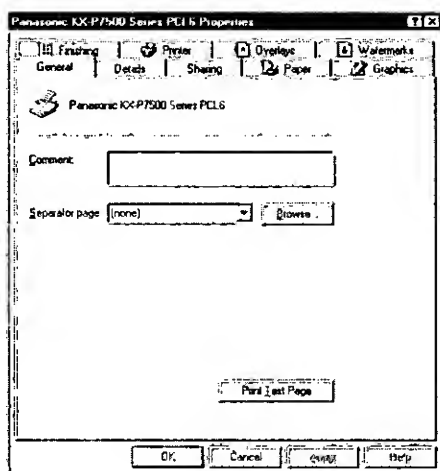
<When the computer is Windows 95/Windows 98>

The following windows are for Windows 98.

- 1 Click **Start**, select **Settings**, and click **Printers**.

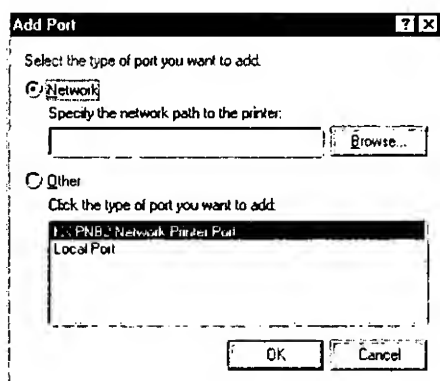


- 2 Click the printer with the Network Card installed and right-click.
- 3 Click **Properties**.



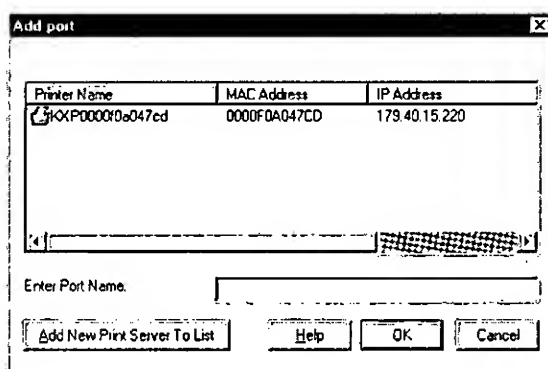
- 4 Click the **Details** tab.

5 Click **Add Port...**.

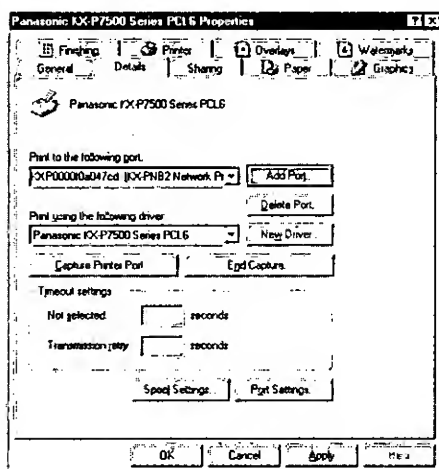


6 Click on the **Other** button.

7 Click KX-PNB2 Network Printer Port and click **OK**.



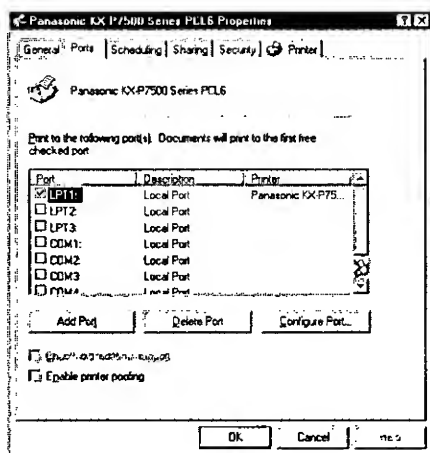
8 Click the printer with the Network Card from the list and click **OK**.



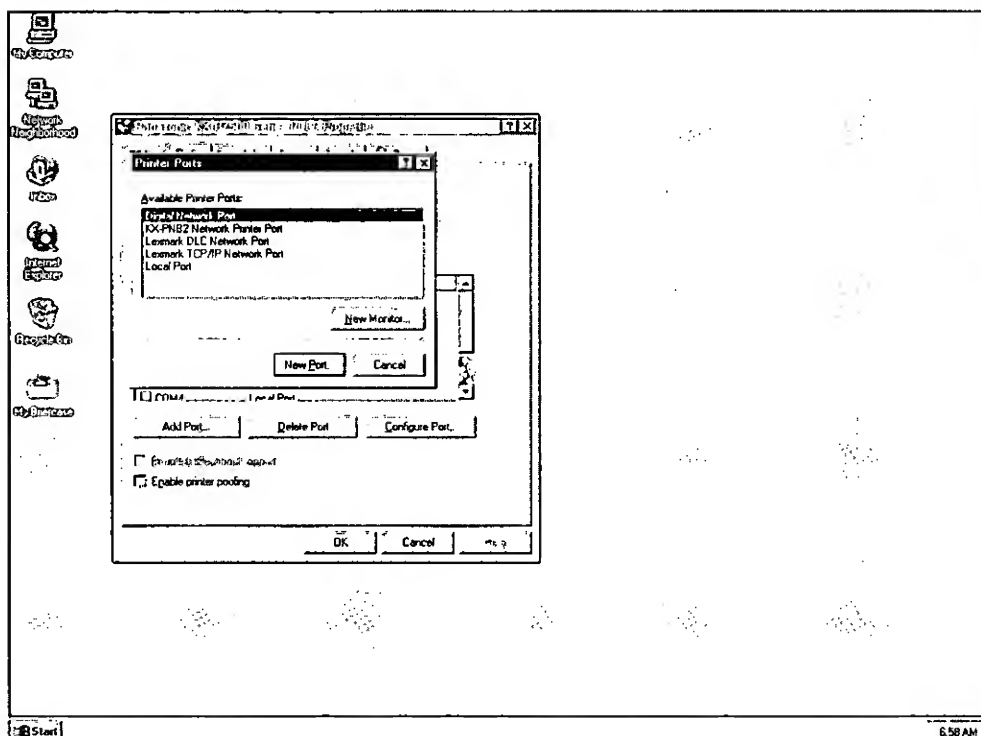
9 Click **OK**.

<When the computer is Windows NT 4.0>

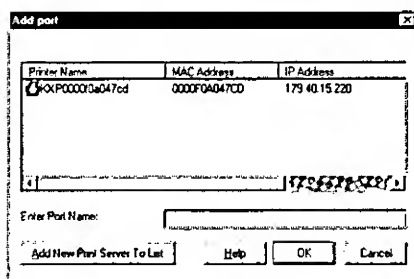
- 1 Click **Start**, select **Settings**, and click **Printers**.
- 2 Click the printer with the Network Card installed and right-click.
- 3 Click **Properties**.
- 4 Click the **Ports** tab.



- 5 Click **Add Port...**

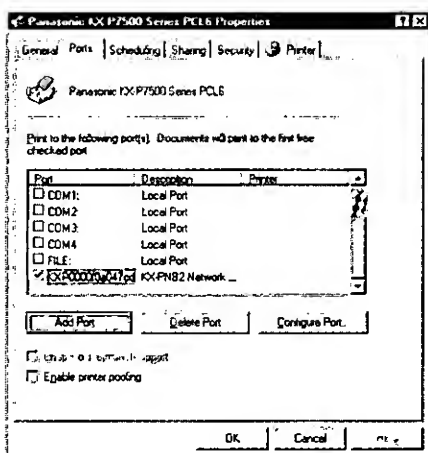


- 6 Click KX-PNB2 Network Printer Port from the [Available Printer Ports:], and click **New Port...**.



- 7 Click the printer with the Network Card from the list and click **OK**.

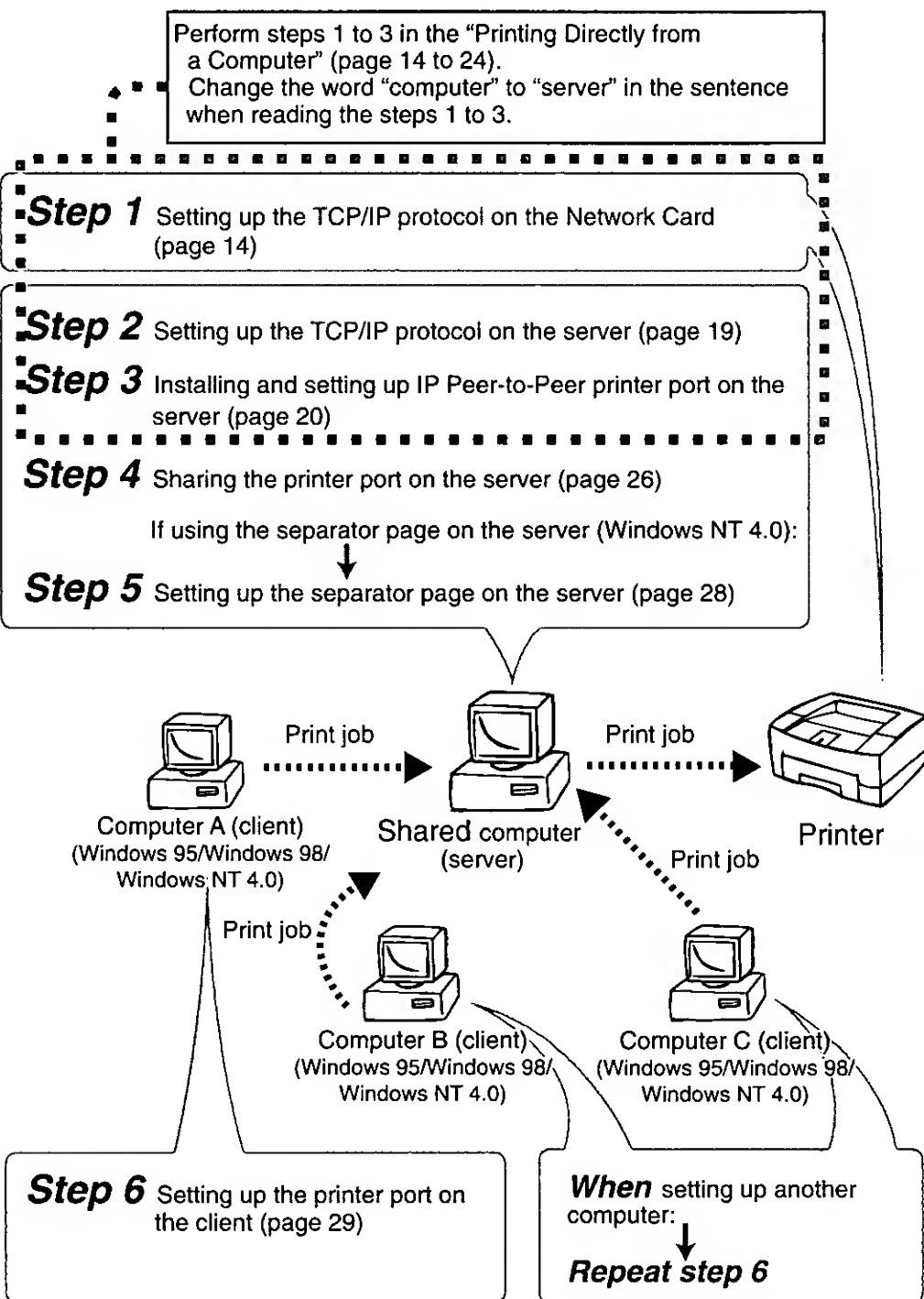
- 8 Click **Close**.



- 9 Click **OK**.

Printing through the Shared Computer (Server)

The network printing is configured in the following outline order.



Step 4: Sharing the printer port on the server

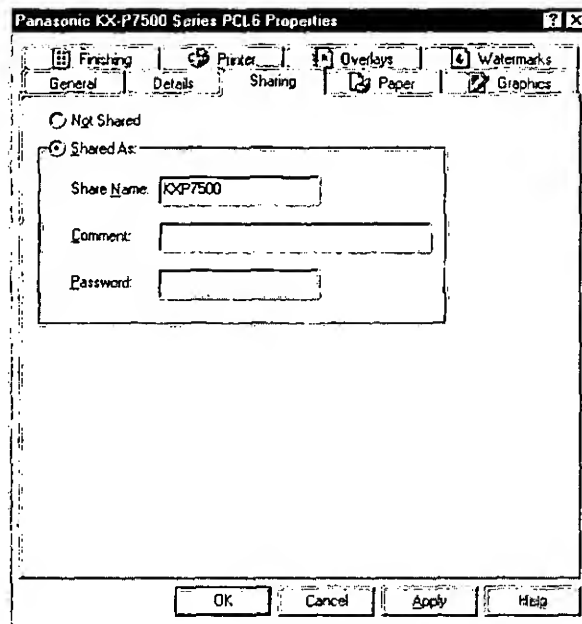
NOTE

- If the **Sharing** tab does not appear during the setup, click **Network Computer** and in the **Properties** window, set up printer as shared. For more information, refer to Help menu for Windows 95/ Windows 98/ Windows NT 4.0.

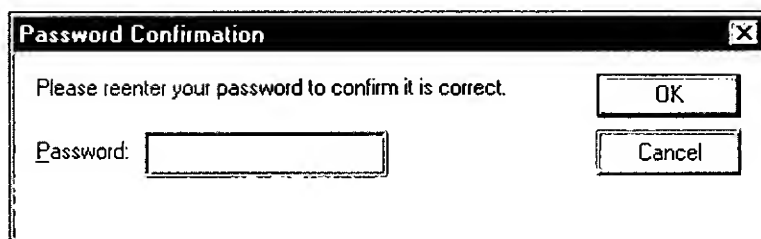
<When the server is Windows 95/Windows 98>

The following windows are for Windows 98.

- 1 Click **Start**, select **Settings**, and click **Printers**.
- 2 Click the printer with the Network Card installed and right-click.
- 3 Click **Properties**.
- 4 Click the **Sharing** tab.
- 5 Click on the **Shared As:** button, then enter the Share Name and if needed, enter Comment and Password.



- 6 a) If you do not enter the password, click **OK**.
- b) If you enter the password, perform the following step.

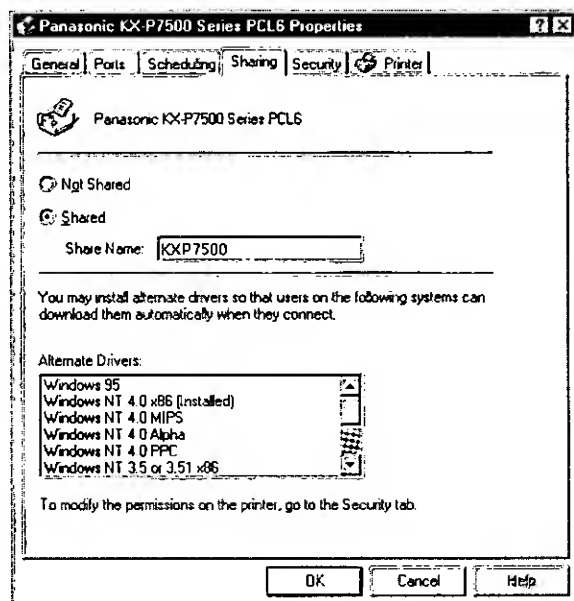


- 7 Enter the password again, then click **OK**.

<When the server is Windows NT 4.0>

You must logon into the server using the supervisor privilege to perform the following steps.

- 1 Click **Start**, select **Settings**, and click **Printers**.
- 2 Click the printer with the Network Card installed and right-click.
- 3 Click **Properties**.
- 4 Click the **Sharing** tab.
- 5 Click on the **Shared** button, then enter the Shared Name.

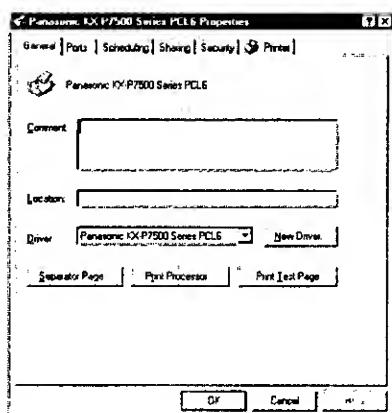


- 6 Click **OK** to close the printer properties window.

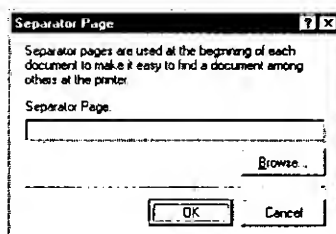
■ If using the separator page on the server (Windows NT 4.0), proceed to step 5 below. If not, proceed to step 6 on page 29.

Step 5: Setting up the separator page on the server

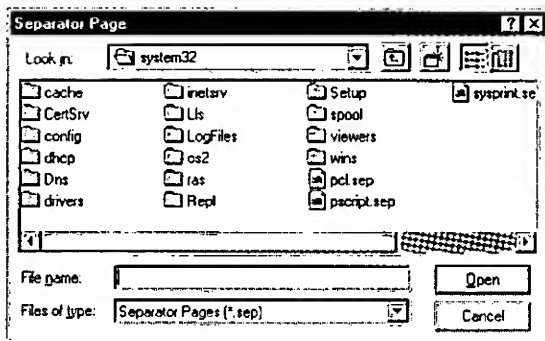
- 1 Click **Start**, select **Settings**, and click **Printers**.
- 2 Click the printer with the Network Card installed and right-click.
- 3 Click **Properties**.
- 4 Click the **General** tab.



- 5 Click **Separator Page...**.



- 6 Click **Browse...**.



- 7** Select **pcl.sep**, then click **Open**.
 - If the PS SIMM is installed in your printer, select **pscript.sep**.
- 8** Click **OK**.
- 9** Click **OK** to close the printer properties window.

Step 6: Setting up the printer port on the client

■ Installing the printer driver

If the printer driver has not been installed, install it by the CD-ROM supplied with the printer. For detailed instructions, see the printer's Operating Instructions on the CD-ROM.

NOTE

- If installing the PostScript printer driver, select "Local printer" when a message to select local printer or network printer appears. And select LPT1 when available port list appears.

■ Setting up the printer port

NOTE

- Confirm whether you can operate sever's files from a client as indicated below. Write down the server name and printer name because you need to enter them in step 7 on page 30.
 - (1) Double-click the Network Neighborhood icon.
 - (2) Double-click the objective server.
 - (3) Shared printer should be displayed on the screen.
If not, set up the Network by referring to Windows Help.

<When the client is Windows 95/Windows 98>

- 1** Click **Start**, select **Settings**, and click **Printers**.
- 2** Click the printer with the Network Card installed and right-click.
- 3** Click the **Properties**.
- 4** Click the **Details** tab.
- 5** Click **Add Port...**.
- 6** Click on the **Network** button.

- 7** Click **Browse...**.
- 8** Double-click the server to display the printer and select the printer.
- 9** Click **OK** three times.

<When client is Windows NT 4.0>

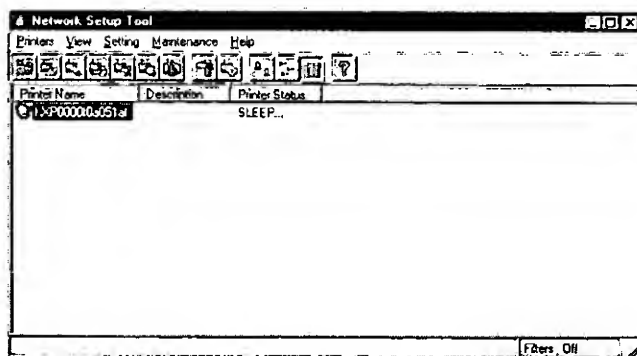
- 1** Click **Start**, select **Settings**, and click **Printers**.
- 2** Click the printer with the Network Card installed and right-click.
- 3** Click **Properties**.
- 4** Click the **Ports** tab.
- 5** Click **Add Port...**.
- 6** Click **Local Port** from the [Available Printer Ports:], and click **New Port...**.
- 7** Enter the printer path name connected to the server in the following manner, then click **OK**.
\\server name*\printer name*
* The names written down on page 29 **"NOTE"**.
- 8** Click **Close**.
- 9** Click **OK** to close the printer properties window.

By Using the Network Setup Tool

NOTE

- To install the Network Setup Tool, see "Installing IP Peer-to-Peer printer port" on page 20.

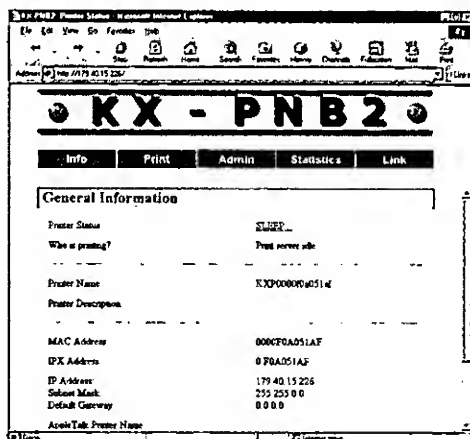
- 1 Click **Start**, select **Programs**, **Panasonic**, **Panasonic KX-xxxx Series**, **Network Setup Tool**, and click **Panasonic KX-xxxx Series Network Setup Tool**.



- 2 Click **Network Interface** from the **Setting** menu.

By Using the Web Browser

- 1 Set up the IP address and Subnet Mask on the Network Card. See page 14. If setting up it beyond a router, the Default Gateway needs to be set up.
If there is the printer in the intranet area, bypass the proxy server.
- 2 Enter **http://IP address** in the address bar, then press the **Enter** key.



- 3 Click **Admin**.

FOR USERS IN UNITED STATES

Technical Support Calls

If you have read this manual and tried the troubleshooting procedures and you are still having difficulty, please contact the reseller from which the unit was purchased. You may also call the end user technical support telephone number which is operational during East Coast business hours (9:00 AM to 7:00 PM). The end user technical support number is 1-800-PANASYS. This number is available within the U.S. only.

Helpful Phone Numbers

To locate your nearest sales dealer	CALL 1-800-742-8086
To order consumables	CALL 1-800-833-9626
To order operating instructions/CD's	CALL 1-800-833-9626
To locate your nearest authorized service center	CALL 1-800-726-2797
For technical support	CALL 1-800-PANASYS
Automated 24-hour support via Fax back	CALL 1-800-PANASYS
World Wide Web Technical & Driver Support	http://www.panasonic.com/office/printer

Panasonic Document Imaging Company
Division of Matsushita Electric Corporation of America
Two Panasonic Way, Secaucus, New Jersey 07094

Panasonic Sales Company
Division of Matsushita Electric of Puerto Rico, Inc.
San Gabriel Industrial Park, 65th Infantry Avenue KM. 9.5
Carolina, Puerto Rico 00985

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario, L4W 2T3

Matsushita Electric Industrial Co., Ltd.
Central P.O.Box 288, Osaka 530-91, Japan
